Access DB# 137497

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: HENRY HU Examiner #: 79349 Date: 11-9-04
Art Unit: 1713 Phone Number ~~30~~ 292-1103 Serial Number: 10-619190
Mail Box and Bldg/Room Location: AU 1713 Results Format Preferred (circle): PAPER DISK E-MAIL
Rem 10A20

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: TFE Copolymers

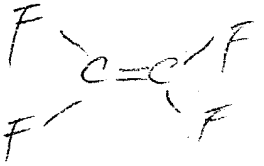
Inventors (please provide full names): Pasqua Colaianna, Giulio Briniati, Vincenzo Arcella

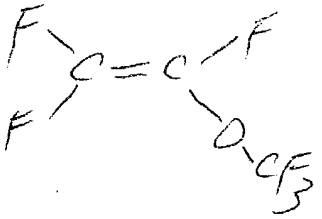
Earliest Priority Filing Date: 7-16-2002

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search a bipolymer of TFE and FMVE

(fluorinated methyl vinylether)

TFE 

FMVE  (3,7-5,2 mol%)

(some called it PMVE or perfluoromethyl vinylether)

Thanks

****

STAFF USE ONLY Type of Search Vendors and cost where applicable

STIC Search Report
EIC 1700

STIC Database Tracking Number: 137497

TO: Henry Hu
Location: Rem 10A20
Art Unit : 1713
November 9, 2004

Case Serial Number: 10/619190

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

=> FILE REG
FILE 'REGISTRY' ENTERED AT 15:16:57 ON 09 NOV 2004

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> D QUE
L37 4376 SEA FILE=REGISTRY ABB=ON 116-14-3/CRN
L41 289 SEA FILE=REGISTRY ABB=ON 1187-93-5/CRN
L42 229 SEA FILE=REGISTRY ABB=ON L41 AND L37
L43 3 SEA FILE=REGISTRY ABB=ON L42 AND 2/NC

3 Polymers with only TFE and FMVE

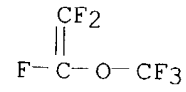
=> D L43 1-3

L43 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN
RN 204079-82-3 REGISTRY
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene, block (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethene, trifluoro(trifluoromethoxy)-, polymer with tetrafluoroethene, block (9CI)
OTHER NAMES:
CN Perfluoro(methylvinyl ether)-tetrafluoroethylene block copolymer
MF **(C3 F6 O . C2 F4)x**
CI PMS
PCT Fluoropolymer, Polyvinyl
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); PRP (Properties); USES (Uses)

CM 1

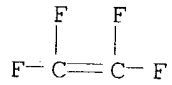
CRN 1187-93-5
CMF C3 F6 O

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



CM 2

CRN 116-14-3
CMF C2 F4

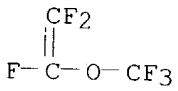


7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L43 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN
RN 112652-06-9 REGISTRY
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene, alternating (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethene, trifluoro(trifluoromethoxy)-, polymer with tetrafluoroethene, alternating (9CI)
MF **(C3 F6 O . C2 F4)x**
CI PMS
PCT Fluoropolymer, Polyvinyl
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

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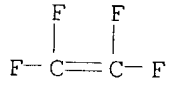
CMF C2 F4

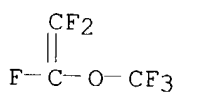


1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L43 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN
RN 26425-79-6 REGISTRY
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethene, trifluoro(trifluoromethoxy)-, polymer with tetrafluoroethene (9CI)
CN Ether, trifluoromethyl trifluorovinyl, polymer with tetrafluoroethylene (8CI)
CN Ethylene, tetrafluoro-, polymer with trifluoromethyl trifluorovinyl ether (8CI)
OTHER NAMES:
CN F 406
CN Hyflon MFA 620
CN Perfluoro(methyl vinyl ether)-tetrafluoroethene copolymer
CN Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer
CN Perfluoro(methyl vinyl ether)-tetrafluoroethylene polymer
CN Perfluoromethyl perfluorovinyl ether-tetrafluoroethylene copolymer
CN Perfluoromethyl perfluorovinyl ether-tetrafluoroethylene polymer
CN Poly(perfluoromethyl perfluorovinyl ether-co-tetrafluoroethylene)
CN Tetrafluoroethylene-trifluoromethyl trifluorovinyl ether copolymer
CN Tetrafluoroethylene-trifluoromethyl trifluorovinyl ether polymer
CN Trifluoromethyl trifluorovinyl ether-tetrafluoroethylene copolymer
DR 130118-47-7
MF **(C3 F6 O . C2 F4)x**
CI PMS, COM
PCT Fluoropolymer, Polyvinyl
LC STN Files: CA, CAPLUS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2, USPATFULL
Other Sources: TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: PRP (Properties); RACT (Reactant or reagent)

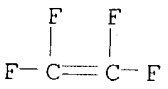
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

258 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
258 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 15:17:18 ON 09 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 9 Nov 2004 VOL 141 ISS 20
FILE LAST UPDATED: 8 Nov 2004 (20041108/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S L49
L49 NOT FOUND
The L-number entered has not been defined in this session, or it has been deleted. To see the L-numbers currently defined in this session, enter DISPLAY HISTORY at an arrow prompt (=>).

=> S L43
L44 264 L43

=> S L44 AND MOL?
3945116 MOL?
L45 89 L44 AND MOL?

=> => D QUE
L37 4376 SEA FILE=REGISTRY ABB=ON 116-14-3/CRN
L41 289 SEA FILE=REGISTRY ABB=ON 1187-93-5/CRN
L42 229 SEA FILE=REGISTRY ABB=ON L41 AND L37
L43 3 SEA FILE=REGISTRY ABB=ON L42 AND 2/NC

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

264 CA references from the 3 polymers

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L44          264 SEA FILE=HCAPLUS ABB=ON  L43
L46            9 SEA FILE=HCAPLUS ABB=ON  L44 AND MOL?(2A)(3.7 OR 3.8 OR 3.9 OR
                 4 OR 4.1 OR 4.2 OR 4.3 OR 4.4 OR 4.5 OR 4.6 OR 4.7 OR 4.8 OR
                 4.9 OR 5 OR 5.1 OR 5.2)
L47            1 SEA FILE=HCAPLUS ABB=ON  L44 AND MOL?(2A)(4:5)
L48            1 SEA FILE=HCAPLUS ABB=ON  L44 AND MOL?(2A)(4-5)
L49            0 SEA FILE=HCAPLUS ABB=ON  L44 AND MOL?(2A)(3-5)
L50            9 SEA FILE=HCAPLUS ABB=ON  (L46 OR L47 OR L48 OR L49)
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9 with mol

=> D L50 1-9 BIB ABS IND HITSTR

L50 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:55436 HCAPLUS
DN 140:78320
TI Tetrafluoroethylene copolymers useful for cables
IN Colaianna, Pasqua; Brinati, Giulio; Arcella, Vincenzo applicants
PA Solvay Solexis S.P.A., Italy
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1382620	A1	20040121	EP 2003-15360	20030708
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2004054107	A1	20040318	US 2003-619190	20030715
	JP 2004068006	A2	20040304	JP 2003-197798	20030716
PRAI	IT 2002-MI1561	A	20020716		

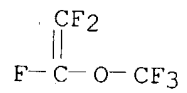
AB Title compns. comprise 2.5-8% **mol**, preferably **3.7-5.2% mol**, FMVE and TFE complementing to 100% mol of the FMVE mols having melt flow index (ASTM D 1238) 8-50 g/10 min, preferably 20-40 g/10 min, the second melting temperature 250-300°, preferably 275-289°, and are used to prepared by extrusion sheaths for LAN cables.

IC ICM C08F214-26
ICS C08F014-18; C08F016-24; H01B003-44
CC 38-3 (Plastics Fabrication and Uses)
ST tetrafluoroethylene perfluoromethyl vinyl ether fluoropolymer cable sheath prepn
IT Electric cables
Extrusion of plastics and rubbers
(tetrafluoroethylene copolymers useful for cables)
IT Fluoropolymers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(tetrafluoroethylene copolymers useful for cables)
IT **26425-79-6P**, Perfluoromethylvinyl ether-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(tetrafluoroethylene copolymers useful for cables)
IT **26425-79-6P**, Perfluoromethylvinyl ether-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(tetrafluoroethylene copolymers useful for cables)

RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

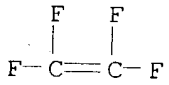
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:853438 HCAPLUS
DN 139:343535
TI Manufacture of organic electroluminescent display panel by offset printing and blanket for the printing
IN Kondo, Yasuhiko; Ochi, Atsushi; Okubo, Hiromasa; Sugitani, Makoto
PA Sumitomo Rubber Industries Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003308973	A2	20031031	JP 2002-180319	20020620
PRAI	JP 2002-35947	A	20020213		
	JP 2002-35948	A	20020213		
	JP 2002-35949	A	20020213		

AB The manufacturing method involves the following steps: (1) filling concave regions of an offset printing plate with an ink containing display materials dissolved or stably dispersed in a solvent, (2) transferring the ink from the concave regions onto a blanket, and (3) transferring the ink from the blanket onto a substrate for the display panel. The blanket has a surface printing layer with 10 points average roughness Rz 0.01-3 μm and volume change rate ≤40% after immersion in the ink solvent at 23° for 24 h. Other types of blankets having a surface printing layer with thickness 0.03-5.0 mm, hardness (JIS A) 20-80°, and the volume change rate ≤40% or a surface printing layer with surface tension γs 5-35 dyn/cm, made of an elastic substance with solubility constant 5-8

(cal/**mol**/cm3)1/2 are also claimed. The display panels having finely patterned layers are easily manufactured at a low cost.

IC ICM H05B033-10
ICS B41M001-10; B41M001-34; B41M003-00; B41N010-00; H05B033-14

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 39, 73

ST org electroluminescent display panel manuf offset printing; offset printing blanket rubber electroluminescent panel manuf

IT Butyl rubber, uses
Ethylene-propylene rubber
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Electroluminescent devices
(displays, panel; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Luminescent screens
(electroluminescent, panel; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Silicone rubber, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(fluorine-containing, FE 351U, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Fluoro rubber
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(fluorophosphazene, Eypel, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Lithographic plates
(offset, blanket for; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Fluoro rubber
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(perfluorinated, Kalrez, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Fluoro rubber
Synthetic rubber, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(perfluoro polyether-, Sifel 3500, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT Fluoro rubber
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(silicone, FE 351U, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT 9010-85-9
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(butyl rubber, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT 9010-79-1
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(ethylene-propylene rubber, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT 1330-20-7, Xylene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ink solvent; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT 86-73-7D, Fluorene, dialkyl, polymers
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(luminescent substance; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

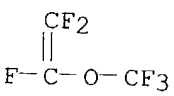
IT **26425-79-6**, Perfluoromethyl vinyl ether-tetrafluoroethylene copolymer
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(rubber, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

IT **26425-79-6**, Perfluoromethyl vinyl ether-tetrafluoroethylene copolymer
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(rubber, blanket; formation of finely patterned layers by offset printing by using printing blanket for manufacture of organic electroluminescent display panel)

RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

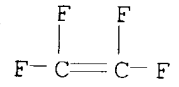
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



L50 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:765869 HCAPLUS
DN 137:264241
TI Fluorine-containing olefin polymer particles
IN Irie, Sadanari; Mimura, Kazuyoshi; Nishibayashi, Hirofumi; Tanaka, Hiroyuki; Noguchi, Takeshi; Kishine, Mitsuru
PA Daikin Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002293831	A2	20021009	JP 2001-92854	20010328
	WO 2002079280	A1	20021010	WO 2002-JP2883	20020326
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
PRAI	JP 2001-92854	A	20010328		

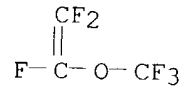
AB The particles, for fillers in fluoro rubbers or fluoropolymers, are those having m.p. 230-300° and melt flow rate (MFR; ASTM D3307; 327°, 5 kg load) 0.005-0.1 g/10 min. The particles with average diameter ≤100 nm are not capable of melt processing. The particles are (a) dispersed in water to give an aqueous dispersion, (b) blended with a F-containing elastomer to give an elastomer composition, which are molded into a sealing part (O ring, gasket, etc.) for an etching apparatus for manufacture of semiconductor devices or (c) mixed with a melt-processable fluoropolymer to give a composition The particles, showing retention of characteristics as fillers even at a temperature higher than their m.p., provide good characteristics to elastomers vulcanized at high temperature Thus, an aqueous emulsion of 94.5:5.5 (**mol**) tetrafluoroethylene (I)-perfluoro(Me vinyl ether) (II) copolymer particles (MFR 0.01 g/10 min, m.p. 264°) and 60.4:38.9:0.7 (mol) I-II-CF2:CFOCF2CF(CF3)OCF2CF2CN copolymer rubber emulsion at weight ratio (as polymer and elastomer) 15:85 were mixed and dropwise added in aqueous HNO3 to give an cocoagulated composition, 100 parts of which was mixed with 1.75 part 2,2-bis[(3-amino-4-phenylamino)phenyl]hexafluoropropane, kneaded, vulcanized at 170° for 15 min, and postvulcanized at 288° for 18 h to give an O ring showing compressive strain 26%.

IC ICM C08F214-26
ICS C08L027-18; C08L101-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 38, 76
ST fluoropolymer polyolefin particle filler fluoro rubber; tetrafluoroethylene perfluoromethyl vinyl ether copolymer particle; vulcanized fluoro rubber fluoropolymer particle filler; etching app o ring

fluoro rubber
IT Seals (parts)
(O-rings; heat-resistant fluorine-containing olefin polymer particles for fillers in heat-vulcanized fluoro rubbers for)
IT Disperse systems
(heat-resistant fluorine-containing olefin polymer particles for)
IT Fillers
Heat-resistant materials
Particles
(heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT Fluoro rubber
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT Vulcanization
(heat-resistant fluorine-containing olefin polymer particles for fillers in heat-vulcanized fluoro rubbers)
IT Etching apparatus
(heat-resistant fluorine-containing olefin polymer particles for fillers in heat-vulcanized fluoro rubbers for O ring in)
IT Semiconductor device fabrication
(heat-resistant fluorine-containing olefin polymer particles for fillers in heat-vulcanized fluoro rubbers for O ring in etching apparatus for)
IT 63654-41-1, Hexafluoropropylene-perfluoro(propyl vinyl ether)-tetrafluoroethylene copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(particles; heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT 463943-58-0P
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(rubber; heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(particles; heat-resistant fluorine-containing olefin polymer particles for fillers in F-containing polymer or rubbers)
RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

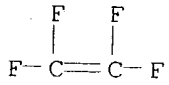
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



L50 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:736275 HCAPLUS
DN 133:310291
TI Amorphous tetrafluoroethylene-hexafluoropropylene copolymer preparation and use for films, coatings, additives, encapsulants, and mold release agents
IN Anolick, Colin; Petrov, Viacheslav Alexandrovich; Smart, Bruce Edmund; Stewart, Charles Winfield; Wheland, Robert Clayton; Farnham, William Brown; Feiring, Andrew Edward; Qiu, Weiming
PA E. I. Du Pont de Nemours & Co., USA
SO U.S., 32 pp., Cont.-in-part of U.S. 5,637,663.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6133389	A	20001017	US 1997-869521	19970606
	US 5478905	A	19951226	US 1995-384068	19950206
	US 5663255	A	19970902	US 1995-549407	19951027
	US 5637663	A	19970610	US 1996-596932	19960205
	US 6486280	B1	20021126	US 2000-615975	20000714
PRAI	US 1995-384068	A2	19950206		
	US 1995-549407	A2	19951027		
	US 1996-596932	A2	19960205		
	US 1997-869521	A3	19970606		

AB Novel amorphous tetrafluoroethylene(.gtorsim.30 mol%)-hexafluoropropylene(.gtorsim.1 mol%)(TFE-HFP) dipolymers, optionally another monomer (0-10 mol%) and terpolymers of 27-60 mol% HFP, ≤35 mol% another monomer, and the balance TFE, or tetrapolymers of 27-60 **mol**% HFP, .ltoreq.**5 mol**% other monomers, and the balance TFE, or tetrapolymers of 27-60 mol% HFP, ≤30 mol% second monomer, .ltoreq.**5 mol**% fourth monomer, and the balance TFE, are made in a high productivity continuous process.
IC ICM C08F114-18

NCL 526206000
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 42
ST amorphous fluoroethylene hexafluoropropylene copolymer continuous process; nitrogen trifluoride initiator fluoroethylene fluoropropylene copolymn; high pressure fluoroethylene fluoropropylene continuous polymn
IT Encapsulants
Films
Parting materials
(amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process for)
IT Textiles
(cotton; substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)
IT Coating materials
(dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)
IT Extrusion of plastics and rubbers
(extrusion of amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process with LLDPE)
IT Linear low density polyethylenes
Polymer blends
RL: NUU (Other use, unclassified); USES (Uses)
(extrusion of amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process with LLDPE)
IT Polyimides, uses
RL: NUU (Other use, unclassified); USES (Uses)
(polyether-; substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)
IT Polyethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(polyimide-; substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)
IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of amorphous tetrafluoroethylene-hexafluoropropylene copolymers by high pressure continuous process)
IT Polymerization catalysts
(radical; preparation of amorphous tetrafluoroethylene-hexafluoropropylene copolymers by high pressure continuous process)
IT EPDM rubber
Fluoro rubber
Galvanized steel
Neoprene rubber, uses
Polyamide fibers, uses
Polyamides, uses
Polyester fibers, uses
Polyesters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)
IT Fluoro rubber
RL: NUU (Other use, unclassified); USES (Uses)
(tetrafluoroethylene-trifluoromethyl trifluorovinyl ether; substrates for dipped coatings with amorphous tetrafluoroethylene-

hexafluoropropylene copolymers produced by high pressure continuous process)

IT 112938-55-3, Bakelite GRSN 7047
RL: NUU (Other use, unclassified); USES (Uses)
(extrusion of amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process with LLDPE)

IT 311-89-7 355-43-1 375-80-4 647-56-3 677-69-0 836-77-1 927-84-4 2991-84-6 7783-54-2, Nitrogen fluoride (NF3) 7791-25-5, Sulfuryl chloride 14856-94-1 14930-22-4 30320-27-5 33757-15-2 42060-69-5 50285-19-3 129451-44-1 181772-49-6 181772-54-3 181772-58-7 181773-50-2
RL: CAT (Catalyst use); USES (Uses)
(free radical initiator; preparation of amorphous tetrafluoroethylene-hexafluoropropylene copolymers by high pressure continuous process)

IT 74-85-1D, Ethene, polymers with α-olefins
RL: NUU (Other use, unclassified); USES (Uses)
(linear low-d.; extrusion of amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process with LLDPE)

IT 9010-98-4
RL: NUU (Other use, unclassified); USES (Uses)
(neoprene rubber, substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)

IT 9011-17-0P 25067-11-2P 25190-89-0P 31177-09-0P 35560-16-8P 54733-33-4P 64155-70-0P 133126-15-5P 181772-45-2P 181772-63-4P 181772-68-9P 181772-76-9P 181772-87-2P 181772-90-7P 181772-95-2P 181773-02-4P 181773-06-8P 181773-10-4P 181773-14-8P 181773-19-3P 181773-25-1P 181773-32-0P 181773-37-5P 181773-43-3P 181773-58-0P 181773-63-7P 191735-18-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of amorphous tetrafluoroethylene-hexafluoropropylene copolymers by high pressure continuous process)

IT **26425-79-6**
RL: NUU (Other use, unclassified); USES (Uses)
(rubber; substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)

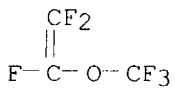
IT 7429-90-5, Aluminum, uses 7440-50-8, Copper, uses 12597-68-1, Stainless steel, uses 12597-71-6, Brass, uses 25036-53-7 25038-59-9, uses 25038-81-7 32131-17-2, uses
RL: NUU (Other use, unclassified); USES (Uses)
(substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)

IT **26425-79-6**
RL: NUU (Other use, unclassified); USES (Uses)
(rubber; substrates for dipped coatings with amorphous tetrafluoroethylene-hexafluoropropylene copolymers produced by high pressure continuous process)

RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

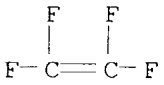
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:70769 HCAPLUS
DN 132:209025
TI The use of crosslinking promoters in the γ-radiolysis of poly (tetrafluoroethylene-co-perfluoromethylvinyl ether). II.
AU Forsythe, J. S.; Hill, D. J. T.; Logothetis, A. L.; Pomery, P. J.; Whittaker, A. K.
CS Polymer Materials and Radiation Group, University of Queensland, St. Lucia, Q. 4072, Australia
SO Journal of Applied Polymer Science (2000), 75(12), 1447-1452
CODEN: JAPNAB; ISSN: 0021-8995
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Incorporation of 0.5 **mol**% of nitrile and bromine functionalities was found to enhance the radiation crosslinking of the copolymer of tetrafluoroethylene-co-perfluoro(methylvinyl ether) (TFE/PMVE) by a factor of 2 for γ-irradiation carried out at room temperature to doses in the range 0-50 kGy. The functional groups, nitrile, perfluorophenyl, and hydrogen were found to greatly enhance crosslinking well below the glass transition temperature of TFE/PMVE (276 K). Increased amts. of gel formation as well as improved tensile properties were obtained for irradiation carried out below the Tg of the polymers containing functionalized monomers. These functional groups appear to be acting as catalysts for the radiation crosslinking of TFE/PMVE but they do not get incorporated into the crosslink.
CC 39-10 (Synthetic Elastomers and Natural Rubber)
ST crosslinking functionalized tetrafluoroethylene perfluoromethylvinyl ether rubber
IT Crosslinking
(radiochem.; use of crosslinking promoters in the γ-radiolysis of poly(tetrafluoroethylene-co-perfluoromethylvinyl ether))
IT Fluoro rubber
RL: PRP (Properties)
(tetrafluoroethylene-trifluoromethyl trifluorovinyl ether, functionalized; use of crosslinking promoters in the γ-radiolysis of poly(tetrafluoroethylene-co-perfluoromethylvinyl ether))
IT Gamma ray

Glass transition temperature
Tensile strength
(use of crosslinking promoters in the γ-radiolysis of poly(tetrafluoroethylene-co-perfluoromethylvinyl ether))

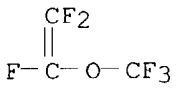
IT **26425-79-6D**, functionalized
RL: RCT (Reactant); RACT (Reactant or reagent)
(rubber; use of crosslinking promoters in the γ-radiolysis of poly(tetrafluoroethylene-co-perfluoromethylvinyl ether))

IT **26425-79-6D**, functionalized
RL: RCT (Reactant); RACT (Reactant or reagent)
(rubber; use of crosslinking promoters in the γ-radiolysis of poly(tetrafluoroethylene-co-perfluoromethylvinyl ether))

RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:576961 HCAPLUS
DN 131:186054
TI Fluorochemical adhesive materials and laminates made with them
IN Araki, Takayuki; Kitahara, Takahiro; Sagisaka, Shigehito; Kato, Taketo; Inaba, Tsuyoshi; Ishiwari, Kazuo; Shimizu, Tetsuo; Ozaki, Hidenori; Higuchi, Tatsuya
PA Daikin Industries Ltd., Japan
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9945044	A1	19990910	WO 1999-JP1095	19990305
	W: CN, JP, KR, US				

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
EP 1086962 A1 20010328 EP 1999-907876 19990305
EP 1086962 B1 20031001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
AT 251185 E 20031015 AT 1999-907876 19990305
US 6680124 B1 20040120 US 2000-623571 20001106
PRAI JP 1998-54915 A 19980306
WO 1999-JP1095 W 19990305

AB The materials comprise fluorinated ethylenic polymers which have ≥150 carbonate groups and/or carbonyl halide groups per 1x106 C atoms at the polymer chain terminals or in the side chains. Introduction of the functional groups above can be done, e.g., by using peroxycarbonate initiators in the preparation of fluoro polymers. The material can directly tenaciously adhere to substrates such as metals, glasses, and resins while retaining excellent properties of fluoropolymers. Thus, compressing a 78.9:16.6:**4.5** (**mol/mol**) mixture of tetrafluoroethylene, ethylene and perfluorocyclobutane to 2 kg/cm2-gauge into a reactor containing 1 L O-free water, perfluorocyclobutane 400, hexafluoropropylene 800, perfluoro(1,1,5-trihydro-1-pentene) (I) 2.0 and cyclohexane 0.85 g while stirring at 35° and 580 rpm, then injecting 8.0 g di-Pr peroxycarbonate and polymerizing while suppling a 52.8:42.7:**4.5** (**mol/mol**) mixture of tetrafluoroethylene, ethylene and perfluorocyclobutane to maintain the polymerization pressure at 12 kg/cm2-gauge and addnl. 1.15 g I over 9 times in 11 h gave 137 g polymer having carbonate group 356/106-C, m.p. 158.2° and MFR 42 g/10-min (at 230°). A press-molded sheet made from the polymer showed good melt lamination adhesion to a polyamide test sheet.

IC ICM C08F014-18
ICS C08F004-32; C08F008-18; B32B027-30

CC 38-3 (Plastics Fabrication and Uses)

ST lamination adhesion sheet carbonate group fluoropolymer; peroxycarbonate initiator polymer functional fluoropolymer adhesive; polymn initiator peroxycarbonate functional fluoropolymer adhesive

IT Fluoropolymers, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carbonate group- or/and carbonyl halide group-containing; functional fluoro polymer adhesive materials and laminates made with them)

IT Adhesives
Bottles
Fuel tanks
Hoses
Laminated materials
Pipes and Tubes
(functional fluoro polymer adhesive materials and laminates made with them)

IT Laminated plastics, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(functional fluoro polymer adhesive materials and laminates made with them)

IT Acrylic polymers, uses
Borosilicate glasses
Polyamides, uses
Polycarbonates, uses
Polyesters, uses

Polyolefins
RL: TEM (Technical or engineered material use); USES (Uses)
(lamination substrate; functional fluoro polymer adhesive materials and laminates made with them)

IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer 94228-79-2P 203572-45-6P, Ethylene-hexafluoropropylene-perfluoro(1,1,5-trihydro-1-pentene)-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carbonate group- or/and carbonyl halide group-containing; functional fluoro polymer adhesive materials and laminates made with them)

IT 9002-86-2, PVC 9002-88-4, Polyethylene 9002-89-5, Polyvinyl alcohol 9003-20-7, Vinyl acetate polymer 24937-16-4, Ube 3035 25067-34-9, Eval F 101
RL: TEM (Technical or engineered material use); USES (Uses)
(lamination substrate; functional fluoro polymer adhesive materials and laminates made with them)

IT 31198-38-6, Dipropyl peroxycarbonate
RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(polymerization initiators/terminators; functional fluoro polymer adhesive materials and laminates made with them)

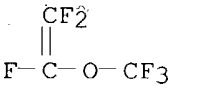
IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carbonate group- or/and carbonyl halide group-containing; functional fluoro polymer adhesive materials and laminates made with them)

RN 26425-79-6 HCAPLUS

CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

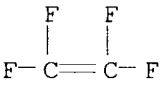
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:784310 HCAPLUS

DN 128:62626
TI Fluorine-containing optical plastic materials with low loss for optical fibers
IN Sugiyama, Tokuhide; Murofushi, Hidenobu; Naritomi, Masaki
PA Asahi Glass Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09316265	A2	19971209	JP 1996-135521	19960529
PRAI	JP 1996-135521		19960529		

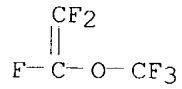
AB The materials, showing excellent heat-, chemical-, and moisture resistance, are obtained by irradiation of molten fluoropolymers with radiation beam. The irradiation may be performed in O-free atmospheric Thus, 35 g perfluoro(butenyl vinyl ether) was suspension-polymerized at 40° in H2O in the presence of (Me2CHOCO2)2 to give a polymer of number-average **mol.** weight 1. **5** + 105, refractive index 1.34, glass transition temperature 108°, and intrinsic viscosity [in (perfluoro)2-butyltetrahydrofuran, 30°] 0.50. Then, the polymer was blended with 15% chlorotrifluoroethylene oligomer in molten state and extruded to give a sheet, which was irradiated with electron beam at 50 kGy to give the claimed material showing scattering loss (at 633 nm wavelength) 152 dB/km.

IC ICM C08L027-12
ICS G02B001-04; G02B006-00
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73
ST radiation beam irradiated fluoropolymer optical material; low scattering loss fluoropolymer optical fiber
IT Optical fibers
(distributed; radiation-beam-irradiated fluoropolymer-based optical materials with low loss)
IT Fluoropolymers, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(radiation-beam-irradiated fluoropolymer-based optical materials with low loss)
IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer 37626-13-4P, Perfluoro(2,2-dimethyl-1,3-dioxole)-tetrafluoroethylene copolymer 152151-31-0P, Poly[perfluoro(butenyl vinyl ether)] 186825-54-7P, Chlorotrifluoroethylene-perfluoro(butenyl vinyl ether) copolymer 200262-18-6P, Perfluoro(butenyl vinyl ether)-perfluoro(2,2-dimethyl-1,3-dioxole) copolymer 200262-19-7P
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(radiation-beam-irradiated fluoropolymer-based optical materials with low loss)
IT 9002-83-9, Chlorotrifluoroethylene homopolymer
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(radiation-beam-irradiated fluoropolymer-based optical materials with low loss)
IT **26425-79-6P**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene copolymer
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer

in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(radiation-beam-irradiated fluoropolymer-based optical materials with low loss)
RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

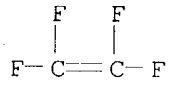
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4

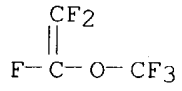


L50 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:211869 HCAPLUS
DN 126:225786
TI Equilibrium melting temperatures of tetrafluoroethylene-perfluoroalkyl vinyl ether copolymers
AU Pucciariello, Rachele
CS Dip. Chim., Univ. della Basilicata, Potenza, 85100, Italy
SO Journal of Applied Polymer Science (1997), 64(2), 407-409
CODEN: JAPNAB; ISSN: 0021-8995
PB Wiley
DT Journal
LA English
AB The melting behavior of PTFE containing 2, 4, 6 and 10 mol.% perfluoro(Me vinyl ether) as comonomer was studied.
CC 36-5 (Physical Properties of Synthetic High Polymers)
ST melting behavior tetrafluoroethylene copolymer; perfluoromethyl vinyl ether copolymer melting
IT Fluoropolymers, properties
RL: PRP (Properties)
(equilibrium melting temps. of tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT **26425-79-6**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene polymer
RL: PRP (Properties)
(equilibrium melting temps. of)
IT **26425-79-6**, Perfluoro(methyl vinyl ether)-tetrafluoroethylene polymer
RL: PRP (Properties)

(equilibrium melting temps. of)
RN 26425-79-6 HCAPLUS
CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI) (CA INDEX NAME)

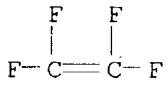
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



L50 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:222277 HCAPLUS
DN 108:222277
TI Process for the polymerization of fluorinated monomers in aqueous dispersion
IN Giannetti, Enzo; Visca, Mario
PA Ausimont S.p.A., Italy
SO Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 250767	A1	19880107	EP 1987-106253	19870429
	EP 250767	B1	19910904		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	ZA 8702891	A	19871125	ZA 1987-2891	19870423
	US 4864006	A	19890905	US 1987-41525	19870423
	IL 82309	A1	19910310	IL 1987-82309	19870423
	IN 167721	A	19901215	IN 1987-CA334	19870427
	NO 8701771	A	19871228	NO 1987-1771	19870428
	NO 167986	B	19910923		
	NO 167986	C	19920102		
	AU 8772177	A1	19880107	AU 1987-72177	19870428
	AU 601408	B2	19900913		
	JP 63008406	A2	19880114	JP 1987-103435	19870428
	JP 2562890	B2	19961211		
	DD 262433	A5	19881130	DD 1987-302214	19870428
	CA 1281489	A1	19910312	CA 1987-535850	19870428

	RU 2026308	C1	19950109	RU 1987-4202519	19870428
	CZ 279451	B6	19950517	CZ 1987-3010	19870428
	FI 8701902	A	19871227	FI 1987-1902	19870429
	FI 89373	B	19930615		
	FI 89373	C	19930927		
	CN 87103869	A	19880106	CN 1987-103869	19870429
	CN 1009933	B	19901010		
	BR 8702109	A	19880209	BR 1987-2109	19870429
	AT 66937	E	19910915	AT 1987-106253	19870429
	ES 2025574	T3	19920401	ES 1987-106253	19870429
PRAI	IT 1986-20909		19860626		
	EP 1987-106253		19870429		

AB The title process is carried out in the presence of a radical initiator and a neutral group-terminated perfluoropolyether microemulsion with enhanced polymerization rate and reproducibility and reduced perfluoropolyether consumption. A microemulsion stable at 60-90° was prepared from RfO[CF(CF3)CF2O]n[CF(CF3)O]m(CF2O)pRf' (I, Rf = perfluoroalkyl; Rf1 = CF2CO2M or CO2H; **mol**. weight 632) **5**, I (Rf, Rf' = perfluoroalkyl, mol. weight 800) 3, 10% aqueous NH4OH 5, and water 10 parts. The microemulsion (15.3 mL, 75°) was mixed with 2 L water, heated to 95, pressured to 20 kg/cm2 with 63:37 (molar) C3F6-C2F4, treated with a solution of 0.73 g (NH4)2S2O8 and 0.73 g K2S2O8 in 500 mL H2O, fed with C3F6-C2F4 (5.8% C3F6) to maintain this initial pressure for 15 min, and fed with 88 mL/h of the above persulfate solution for 60 min to obtain an aqueous dispersion containing 224 g/L polymer (particle size 0.041 μm) with low volatiles content and good whiteness and melt flow rate 0.65/10 min.

IC ICM C08F014-18

CC 35-4 (Chemistry of Synthetic High Polymers)

ST fluoropolymer manuf perfluoropolyether microemulsion

IT Fluoropolymers
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by suspension polymerization in water, in presence of perfluoropolyoxyalkylene microemulsions)

IT Emulsions
(micro-, of perfluoropolyoxyalkylenes, preparation of fluoropolymers in presence of)

IT Polyoxyalkylenes, uses and miscellaneous
RL: USES (Uses)
(perfluoro, aqueous microemulsions, suspension polymerization of perfluoroethylene and hexafluoropropene or perfluoro(Me vinyl ether) in water in presence of)

IT Polymerization
(radical, suspension, of tetrafluoroethylene and hexafluoropropene or perfluoro(methylvinyl ether), in presence of perfluoropolyoxyalkylene microemulsions)

IT 25067-11-2P, Hexafluoropropene-tetrafluoroethylene copolymer
26425-79-6P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by suspension polymerization in water, in presence of perfluoropolyoxyalkylene microemulsions)

IT **26425-79-6P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by suspension polymerization in water, in presence of perfluoropolyoxyalkylene microemulsions)

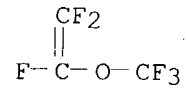
RN 26425-79-6 HCAPLUS

CN Ethene, tetrafluoro-, polymer with trifluoro(trifluoromethoxy)ethene (9CI)

(CA INDEX NAME)

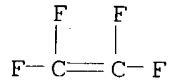
CM 1

CRN 1187-93-5
CMF C3 F6 O



CM 2

CRN 116-14-3
CMF C2 F4



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L37 4376 SEA FILE=REGISTRY ABB=ON 116-14-3/CRN
L41 289 SEA FILE=REGISTRY ABB=ON 1187-93-5/CRN
L42 229 SEA FILE=REGISTRY ABB=ON L41 AND L37
L43 3 SEA FILE=REGISTRY ABB=ON L42 AND 2/NC
L44 264 SEA FILE=HCAPLUS ABB=ON L43
L46 9 SEA FILE=HCAPLUS ABB=ON L44 AND MOL?(2A)(3.7 OR 3.8 OR 3.9 OR 4 OR 4.1 OR 4.2 OR 4.3 OR 4.4 OR 4.5 OR 4.6 OR 4.7 OR 4.8 OR 4.9 OR 5 OR 5.1 OR 5.2)
L47 1 SEA FILE=HCAPLUS ABB=ON L44 AND MOL?(2A)(4:5)
L48 1 SEA FILE=HCAPLUS ABB=ON L44 AND MOL?(2A)(4-5)
L49 0 SEA FILE=HCAPLUS ABB=ON L44 AND MOL?(2A)(3-5)
L50 9 SEA FILE=HCAPLUS ABB=ON (L46 OR L47 OR L48 OR L49)
L51 17 SEA FILE=HCAPLUS ABB=ON (FMVE OR PMVE OR PERFLUOROMETHYL VINYL ETHER)(3A)MOL?
L52 16 SEA FILE=HCAPLUS ABB=ON L51 NOT L50

=> D L52 BIB ABS IND HITSTR 1-16

L52 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:681657 HCAPLUS
DN 141:175352
TI Fluororubber-based sealant compositions and fluororubber-based seals
IN Amemiya, Takashi; Kudo, Masashi; Ogata, Chiyota; Okamura, Tatsuo; Otsuka, Masaya
PA NOK Corporation, Japan
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004069953	A1	20040819	WO 2004-JP1215	20040205
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI, NI, NO				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004262968	A2	20040924	JP 2003-29938	20030206
PRAI	JP 2003-29938	A	20030206		

AB The composition comprises (A) 100 parts of a fluororubber, the fluororubber being a copolymer composed of 20-23 **mol**% of **perfluoromethyl vinyl ether**, 60-70 **mol**% of vinylidene fluoride, 10-20 mol% of tetrafluoroethylene, and 0-10 mol% of hexafluoropropylene together with a brominated and/or iodized unsatd. fluorohydrocarbon for crosslinking sites, (B) 2-50 parts of bituminous fine powder, (C) 0.5-6 parts of organic peroxide, and (D) 1-10 parts of polyfunctional monomer (e.g., triallyl isocyanurate). A seal, such as an O-ring for automobile fuel injector, was obtained by vulcanizing the composition This seal excels in heat resistance, cold resistance, and fuel oil resistance.

IC ICM C09K003-10

CC 39-15 (Synthetic Elastomers and Natural Rubber)

ST fluororubber seal O ring automobile fuel injector; heat cold fuel resistance seal fluororubber; perfluoromethyl vinyl ether vinylidene fluoride tetrafluoroethylene copolymer rubber

IT Bituminous coal
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Mineral Black 325BA; fluororubber seals with good heat, cold, and fuel oil resistance)

IT Automobiles
(O-ring; fluororubber seals with good heat, cold, and fuel oil resistance)

IT Seals (parts)
(O-rings; fluororubber seals with good heat, cold, and fuel oil resistance)

IT Fluoro rubber
RL: TEM (Technical or engineered material use); USES (Uses)
(tetrafluoroethylene-trifluoromethyl trifluorovinyl ether-vinylidene fluoride; fluororubber seals with good heat, cold, and fuel oil resistance)

IT 1025-15-6, Triallyl isocyanurate
RL: RCT (Reactant); RACT (Reactant or reagent)
(curing agent; fluororubber seals with good heat, cold, and fuel oil resistance)

IT 56357-87-0, Perfluoromethyl vinyl ether-tetrafluoroethylene-vinylidene fluoride copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(rubber; fluororubber seals with good heat, cold, and fuel oil resistance)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:252553 HCAPLUS
DN 140:272182
TI Perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products
IN Kaspar, Harald; Hintzer, Klaus; Van Gool, Guy; Marz, Franz; Worm, Allan T.; Fukushi, Tatsuo
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004024786	A1	20040325	WO 2003-US28610	20030911
	W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, EG, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004127661	A1	20040701	US 2003-660437	20030911
PRAI	US 2002-410225P	P	20020912		

AB A fluoroelastomer with Tg of -25° or below and solvent swell <60 % comprises repeating units derived from 10-40 mol% tetrafluoroethylene, 40-65 mol% of vinylidene fluoride, 1-30 mol% perfluorinated vinyl ether with the formula: CF2 = CFOCF2CF2CF2OCF3, 1-20 **mol**% of **perfluoromethyl vinyl ether**, and chain transfer agent. The fluoroelastomer is prepared by radical aqueous suspension or emulsion polymerization, and curable with peroxide to obtain a core-shell material. Thus, bromotetrafluorobutene, perfluoromethylether, perfluoromethyoxypropyl vinyl ether, tetrafluoroethylene, and vinylidenedifluoride were emulsion radical polymerized in the presence of ammonium peroxodisulfate, and then vulcanized using peroxide catalyst (Trigonox 101 45B).

IC ICM C08F014-00
ICS C08K005-14
CC 39-4 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 37
ST perfluorinated vinyl ether fluoroelastomer fluoropolymer peroxide vulcanization prepn
IT Polymerization
(aqueous, radical; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT Polymerization
(emulsion, radical; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT Vulcanization accelerators and agents
(perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT Fluoro rubber

Fluoropolymers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT Polymerization
(radical, suspension; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT Peroxides, uses
RL: CAT (Catalyst use); USES (Uses)
(vulcanization; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT 7727-54-0
RL: CAT (Catalyst use); USES (Uses)
(perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT 261178-84-1, Trigonox 101 45B
RL: CAT (Catalyst use); USES (Uses)
(vulcanization catalyst; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
IT 673496-31-6P 673496-32-7P
RL: IMF (Industrial manufacture); PREP (Preparation)
(vulcanized; perfluorinated vinyl ether-containing fluoroelastomer and its vulcanization products)
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:80749 HCAPLUS
DN 140:129615
TI Fluororubber copolymer with excellent chemical resistance and low-temperature resistance
IN Kitaichi, Masanori; Tanaka, Yoshiki; Ueta, Yutaka; Kishine, Mitsuru
PA Daikin Industries, Ltd., Japan
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004009661	A1	20040129	WO 2003-JP9314	20030723
W: US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
JP 2004059597	A2	20040226	JP 2002-215533	20020724
PRAI JP 2002-215533	A	20020724		

AB The fluororubber is prepared by radical polymerization in the presence of RI2 [R = saturated (chloro)fluoro C1-16 hydrocarbon group, C1-3 hydrocarbon group]. The fluororubber comprises 40-70 mol% of vinylidene fluoride units, 10-25 mol% of tetrafluoroethylene units, 20-35 **mol**% of **perfluoromethyl vinyl ether** units, and 0.05-2% of iodine based on the copolymer. The rubber vulcanizate exhibits TR70 of -20 to -30° (ASTM D1329 TR test) and a volume change of 8-20% after immersion in a 15:85 mixture of Fuel C and methanol at 40° for 70 h.
IC ICM C08F214-22
CC 39-4 (Synthetic Elastomers and Natural Rubber)
ST fluoro rubber chem low temp resistance; vinylidene fluoride tetrafluoroethylene perfluoromethyl vinyl ether rubber

IT Chain transfer agents
(diiodo compds.; fluororubber with good chemical resistance and low-temperature
resistance)
IT Chemically resistant materials
Cold-resistant materials
(fluororubber with good chemical resistance and low-temperature resistance)
IT Fluoro rubber
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(fluororubber with good chemical resistance and low-temperature resistance)
IT Fluoro rubber
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(tetrafluoroethylene-trifluoromethyl trifluorovinyl ether-vinylidene fluoride, iodine-containing; fluororubber with good chemical resistance and low-temperature resistance)
IT 650609-53-3P 650609-54-4P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(rubber; fluororubber with good chemical resistance and low-temperature resistance)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:849717 HCAPLUS
DN 137:354246
TI Fluoropolymer compositions having nitrogen-containing cure site components and their manufacture
IN Grootaert, Werner M. A.; Kolb, Robert E.; Hintzer, Klaus
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002088228	A1	20021107	WO 2002-US13687	20020430
	W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2002183458	A1	20021205	US 2002-136020	20020429
	US 6794457	B2	20040921		
	EP 1397420	A1	20040317	EP 2002-734108	20020430
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004533507	T2	20041104	JP 2002-585522	20020430
PRAI	US 2001-287634P	P	20010430		
	US 2002-136020	A	20020429		
	WO 2002-US13687	W	20020430		

OS MARPAT 137:354246
AB The composition comprises (a) a fluoropolymer having interpolymd. units derived from a nitrogen-containing cure site monomer; and (b) a catalyst composition

comprising a compound R1N(R2)(R3)HA (HA = acid; R1, R2, R3 = C1-20 alkyl, cyclic, heterocyclic, Rf(CH2)x-; Rf = C1-8 linear or branched fluorinated alkylene, cycloalkylene, oxyalkylene; x = 1-4). Thus, 100 parts fluoroelastomer prepared from 63.8 mol% tetrafluoroethylene ,35.0 **mol% perfluoromethyl vinyl ether** and 1.2 **mol%** F2C:CFO(CF2)5CN was mixed with FEF N 550 (carbon black) 15, an imidate CF3OCF2CF2C(:NH)OC8H17 2, tri-Ph benzyl phosphonium chloride 0.75 and DBU-HCl 0.5 parts to form a sheet, which was pressed for 45 min at 177°, post-cured, and heat aged, showing compression set (at 230° for 70 h) 12.2 and tensile strength 18.14 MPa and elongation 120% initially and tensile strength 13.45 MPa and elongation 138% after aging at 290° for 70 h, resp.

IC ICM C08J003-24
ICS C08L027-12; C08K005-19

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST fluoro rubber nitrogen contg; amine vulcanization accelerator fluoro rubber

IT Seals (parts)
(O-rings; fluoropolymer compns. having nitrogen-containing cure site components for)

IT Fluoro rubber
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(cyanodecafluoropentyl trifluorovinyl ether-tetrafluoroethylene-trifluoromethyl trifluorovinyl ether; fluoropolymer compns. having nitrogen-containing cure site components)

IT Vulcanization accelerators and agents
(fluoropolymer compns. having nitrogen-containing cure site components)

IT Onium compounds
RL: CAT (Catalyst use); USES (Uses)
(fluoropolymer compns. having nitrogen-containing cure site components)

IT Fluoro rubber
Fluoropolymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(fluoropolymer compns. having nitrogen-containing cure site components)

IT Gaskets
Pipes and Tubes
Seals (parts)
(fluoropolymer compns. having nitrogen-containing cure site components for)

IT 1100-88-5, Triphenyl benzyl phosphonium chloride 78204-84-9, DBU hydrochloride 474543-73-2 474543-74-3
RL: CAT (Catalyst use); USES (Uses)
(fluoropolymer compns. having nitrogen-containing cure site components)

IT 163336-49-0
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(rubber; fluoropolymer compns. having nitrogen-containing cure site components)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:506016 HCAPLUS
DN 137:201786
TI Cocrystallization in blends of random tetrafluoroethylene fluorinated copolymers: the effect of the chain structure and crystallization conditions
AU Pucciariello, Rachele; Villani, Vincenzo; Ruiz de Ballesteros, Odda

CS Dipartimento di Chimica, Universita' della Basilicata, Potenza, 85100, Italy

SO Journal of Polymer Science, Part B: Polymer Physics (2002), 40(14), 1477-1489
CODEN: JPBPEM; ISSN: 0887-6266
PB John Wiley & Sons, Inc.
DT Journal
LA English

AB The possibility of the cocrystn. of random fluorinated tetrafluoroethylene copolymers was investigated with differential scanning calorimetry and wide-angle X-ray scattering. In particular, mixts. composed of poly(tetrafluoroethylene)-co-(hexafluoropropylene) containing 8 or 1 mol% comonomer or poly(tetrafluoroethylene)-co-**perfluoromethyl vinyl ether** (2-10 **mol**% comonomer) were examined The extent of cocrystn. was determined by the difference in the comonomer content, being higher when the difference was lower, and it was favored when quenching from the melt state was adopted. Nevertheless, a key to determining the extent of cocrystn. was the behavior of co-units with respect to inclusion or exclusion from the crystal lattice: when the components were different with respect to this behavior, they were not likely to be miscible in the crystal state even if the difference in the comonomer content was low. Moreover, the similarity in the crystallization rates between the components played an important role: the cocrystn. decreased as the difference in the crystallization rate increased until, when the difference became high enough, the blend became immiscible.

CC 36-3 (Physical Properties of Synthetic High Polymers)

ST cocrystn blend tetrafluoroethylene copolymer; hexafluoropropylene copolymer blend crystn; perfluoromethyl vinyl ether copolymer blend crystn

IT Crystallization
(cocrystn.; effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

IT Melting
(effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

IT Fluoropolymers, properties
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

IT Polymer blends
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

IT 26425-79-6, Perfluoromethyl vinyl ether-tetrafluoroethylene copolymer
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

IT 25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(effect of chain structure and crystallization conditions on cocrystn. in tetrafluoroethylene copolymer blends)

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:238886 HCAPLUS
DN 135:61809
TI The use of NMR for determination of new structures in irradiated TFE/PMVE fluoropolymers
AU Forsythe, J. S.; Hill, D. J. T.; Whittaker, A. K.
CS Department of Materials Engineering, Monash University, Clayton, 3800, Australia
SO Radiation Physics and Chemistry (2001), 60(6), 609-615
CODEN: RPCHDM; ISSN: 0969-806X
PB Elsevier Science Ltd.
DT Journal
LA English
AB The radiation chemical of two tetrafluoroethylene-perfluoromethyl vinyl ether (TFE/**PMVE**) copolymers with TFE **mole** fractions of 0.66 and 0.81 was studied under vacuum using 60Co γ-radiation over absorbed dose ranges up to 4.2 MGy. The radiolysis temperature was 313 K for both TFE/PMVE copolymers. New structure formation in the copolymers was identified by solid-state 19F NMR and the G-values for new chain ends of 2.1 and 0.5 and for branching sites of 0.9 and 0.2 have been obtained for the TFE/**PMVE** with TFE **mole** fractions of 0.66 and 0.81, resp. The relative yields of -O-CF3 and -CF2-CF3 chain ends were found to be proportional to the copolymer composition, but the yields of the -CF2-CF3 chain ends and -CF- branch points were not linearly related to the composition, rather they were correlated with the radical yields measured at 77 K.
CC 36-2 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 35
ST NMR tetrafluoroethylene perfluoromethyl vinyl ether copolymer; gamma irradiated tetrafluoroethylene copolymer structure NMR
IT Polymer chains
(NMR determination of new structures in gamma-irradiated tetrafluoroethylene-perfluoromethyl vinyl ether copolymer)
IT Fluoropolymers, properties
RL: PRP (Properties)
(NMR determination of new structures in gamma-irradiated tetrafluoroethylene-perfluoromethyl vinyl ether copolymer)
IT Polymer degradation
(radiochem.; NMR determination of new structures in gamma-irradiated tetrafluoroethylene-perfluoromethyl vinyl ether copolymer)
IT 26425-79-6D, Perfluoromethyl vinyl ether-tetrafluoroethylene copolymer, gamma-radiolysis derivs.
RL: PRP (Properties)
(NMR determination of new structures in)
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:351587 HCAPLUS
DN 132:348862
TI Fluoroelastomer and crosslinkable composition thereof with good mechanical strength and compression set
IN Kawasaki, Kazuyoshi; Irie, Masaki; Iseki, Katsuhiko; Itagaki, Tsuyoshi; Noguchi, Tsuyoshi; Yamato, Takafumi; Kishine, Mitsuru
PA Daikin Industries, Ltd., Japan
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000029479	A1	20000525	WO 1999-JP6243	19991110
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1153976	A1	20011114	EP 1999-972235	19991110
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 2004122182	A1	20040624	US 2003-726604	20031204
PRAI	JP 1998-323924	A	19981113		
	JP 1998-359449	A	19981217		
	JP 1999-98051	A	19990405		
	WO 1999-JP6243	W	19991110		
	US 2001-831509	B3	20010928		

OS MARPAT 132:348862

AB The fluororubber composition useful for seals comprises a fluoroelastomer having, as crosslinkable groups, carboxyl and/or alkoxycarbonyl groups at any of the backbone ends and branches. Stirring 1 L water, 10 g C3H7OCF(CF3)CF2OCF(CF3)CO2NH4, and 0.09 g Na2HPO4.12 H2O at 50°. reacting with a mixed gas containing 25/75 mol ratio of tetrafluoroethylene (TFE) and perfluoro(Me vinyl ether) (PMVE) at 0.78 MPa-G using 527 mg aqueous NH4S2O8, and polymerizing with CF2CFOCF2CF(CF3)OCF2CF2CN (CNVE) while repeatedly adding TFE and PMVE gave a 1330 g aqueous dispersion containing 21.2% solids. Diluting the dispersion in water, stirring with 2.5% aqueous HCl and repeatedly washing the precipitated polymer with HCFC 141b gave a carboxyl-terminated nitrile-containing elastomer with 56.6/42.3/1.1 **mol**% TFE/**PMVE**/CNVE units. Vulcanization of the polymer with bis(aminophenol) AF gave test pieces with elongation 150%, JiS A hardness 75, and compression set (200°, 70 h) 6%/.

IC ICM C08L027-12
ICS C08F008-00; C08K005-18

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST fluoroelastomer compn mech strength compression set; seal fluoroelastomer carboxyl group

IT Seals (parts)
(O-rings; fluoroelastomer and crosslinkable composition thereof with good mech. strength and compression set)

IT Seals (parts)
Vulcanization accelerators and agents
(fluoroelastomer and crosslinkable composition thereof with good mech. strength and compression set)

IT Fluoro rubber
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(fluoroelastomer and crosslinkable composition thereof with good mech. strength and compression set)

IT 595-90-4, Tetraphenyl tin 61005-79-6 83558-87-6
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(crosslinking agent; fluoroelastomer and crosslinkable composition thereof with good mech. strength and compression set)

IT 71832-66-1DP, hydroyzed 269747-24-2P
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(fluoroelastomer and crosslinkable composition thereof with good mech. strength and compression set)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:210703 HCAPLUS
DN 131:23490
TI Effect of powder grinding on hydroxyapatite formation in a polymeric calcium phosphate cement prepared from tetracalcium phosphate and poly(methyl vinyl ether-maleic acid)
AU Matsuya, Yoko; Matsuya, Shigeki; Antonucci, Joseph M.; Takagi, Shozo; Chowd, Laurence C.; Akamine, Akifumi
CS Department of Operative Dentistrv and Endodontology, Faculty of Dentistry, Kyushu University, Fukuoka, Japan
SO Biomaterials (1999), 20(7), 691-697
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB The primary aim of this study was to determine if cements based on poly(Me vinyl ether-maleic acid) (PMVE-Ma) and tetracalcium phosphate resulted in hydroxyapatite formation. In addition, the mech. strength of this type of polymeric calcium phosphate cement was evaluated. Cements were prepared by mixing, in a powder/liquid mass ratio of 3.0, an aqueous solution of PMVE-Ma (mass fraction = 25%) and tetracalcium phosphate powders ground for various periods of time. The tetracalcium phosphate powders and set cements were characterized by means of x-ray powder diffraction and SEM. Mech. strengths of the cements were tested 24 h after mixing. Prolonged grinding of tetracalcium phosphate powder decreased particle size and/or crystallite size and increased lattice distortion. This enhanced the reactivity of the tetracalcium phosphate powder and elevated the extent of crosslinking between **PMVE**-Ma **mols.**, resulting in improved mech. strength. Hydroxyapatite formation was detected in the cement prepared with the most finely ground tetracalcium phosphate powder. The conversion of residual tetracalcium phosphate particles to more thermodynamically stable hydroxyapatite crystals will reduce the solubility of the polymeric cement and increase its biocompatibility.
CC 63-7 (Pharmaceuticals)
ST grinding tetracalcium phosphate polymer cement hydroxyapatite formation; dental cement tetracalcium phosphate vinyl polymer
IT Dental materials and appliances
(cements; powder grinding effect on hydroxyapatite formation in cement prepared from tetracalcium phosphate and polymer)
IT Bending strength
Biocompatibility
Compressive strength
Crosslinking
Crystallites
Grinding (size reduction)
Particle size distribution
(powder grinding effect on hydroxyapatite formation in cement prepared from tetracalcium phosphate and polymer)
IT 1306-06-5, Hydroxyapatite
RL: FMU (Formation, unclassified); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
(powder grinding effect on hydroxyapatite formation in cement prepared

from tetracalcium phosphate and polymer)
IT 1306-01-0P, Tetracalcium phosphate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(powder grinding effect on hydroxyapatite formation in cement prepared from tetracalcium phosphate and polymer)
IT 25153-40-6, Maleic acid-methyl vinyl ether copolymer
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(powder grinding effect on hydroxyapatite formation in cement prepared from tetracalcium phosphate and polymer)
IT 471-34-1, Calcium carbonate, reactions 7757-93-9, Dicalcium phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(powder grinding effect on hydroxyapatite formation in cement prepared from tetracalcium phosphate and polymer)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:802896 HCAPLUS
DN 130:126161
TI Thermal and mechanical properties of radiation crosslinked poly(tetrafluoroethylene-co-perfluoromethyl vinyl ether)
AU Forsythe, John S.; Hill, David J. T.; Logothetis, Anestis L.; Seguchi, Tadao; Whittaker, Andrew K.
CS Polymer Materials and Radiation Group, University of Queensland, St Lucia, 4072, Australia
SO Radiation Physics and Chemistry (1998), 53(6), 657-667
CODEN: RPCHDM; ISSN: 0969-806X
PB Elsevier Science Ltd.
DT Journal
LA English
AB The γ-radiolysis of tetrafluoroethylene-perfluoromethyl vinyl ether (PMVE) copolymer was investigated using chemical and mech. analyses. The polymer formed an insol. network with a gelation dose of 15.8 kGy. Tensile and glass transition temperature measurements indicated the predominance of crosslinking, with optimal elastomeric properties reached in the dose range of 120-200 kGy. Photoacoustic FTIR spectroscopy (PAS) showed the formation of new COOH end groups on irradiation These new end groups decreased the thermal oxidative stability of the crosslinked network as determined by thermal gravimetric anal. ESR studies of the polymer at 77 K indicated the presence of radical precursors. A G-value of 1.1 was determined for radical production at 77 K. Comparison of radical concns. for a copolymer with a different **mole** ratio of **PMVE**, indicated that the PMVE units contribute to scission reactions.
CC 39-12 (Synthetic Elastomers and Natural Rubber)
ST radiation crosslink tetrafluoroethylene perfluoromethyl vinyl ether rubber thermal mech; fluoromethyl vinyl ether tetrafluoroethylene rubber radiation crosslink thermal mech; fluoroethylene perfluoromethyl vinyl ether rubber radiation crosslink thermal mech
IT Elongation, mechanical
(at-break; thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT Thermal stability
(oxidative; thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT Crosslinking

Gamma ray
(radiolytic; thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT Fluoro rubber
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(tetrafluoroethylene-trifluoromethyl trifluorovinyl ether; thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT ESR (electron spin resonance)
Glass transition temperature
IR spectra
Tensile strength
Young's modulus
(thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
IT 26425-79-6, Perfluoromethyl vinyl ether-tetrafluoroethylene polymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(rubber; thermal and mech. properties of radiation crosslinked tetrafluoroethylene-perfluoromethyl vinyl ether copolymers)
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:199969 HCAPLUS
DN 128:205336
TI Preparation and characterization of inclusion complexes of poly(alkyl vinyl ether) with cyclodextrins
AU Harada, Akira; Okada, Miyuko; Kamachi, Mikiharu
CS Dep. Macromolecular Sci., Grad. Sch. Sci., Osaka Univ., Toyonaka, Osaka, 560, Japan
SO Bulletin of the Chemical Society of Japan (1998), 71(3), 535-542
CODEN: BCSJA8; ISSN: 0009-2673
PB Chemical Society of Japan
DT Journal
LA English
AB γ-Cyclodextrin (γ-CD) has been found to form inclusion complexes with poly(Me vinyl ether) (PMVE), poly-(Et vinyl ether) (PEVE), and poly(Pr vinyl ether) (PnPVE) of various mol. wts. to give stoichiometric compds. in crystalline states. α-Cyclodextrin (α-CD) and β-cyclodextrin (β-CD) did not form complexes with poly(alkyl vinyl ether)s of any mol. weight γ-CD did not form complexes with the low-mol.-weight analogs, such as di-Et ether and trimethylene glycol di-Me ether. The yields of the complexes of γ-CD with **PMVE** increased with increasing **mol.** weight (MW) of **PMVE** and reached saturation at about MW 2000. The yields of the complexes of γ-CD with PEVE and PnPVE increased with increase in MW, and reached saturation at about MW 2000. The yields of the complexes of γ-CD with PEVE and PnPVE increased with increase in MW, reached a maximum at a MW of about 1000 for PEVE and about 250 for PnPVE, and decreased with a further increase in the MW. Complexes were isolated and found to have a 3:1 (monomer unit:CD) ratio. The complexes were characterized by IR, 1H NMR, 13C NMR, and X-ray (powder), thermal and elemental analyses. The structures of the complexes are discussed.
CC 36-5 (Physical Properties of Synthetic High Polymers)
ST polyalkyl vinyl ether cyclodextrin complex
IT Inclusion compounds
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and characterization of inclusion complexes of poly(alkyl vinyl ether) with cyclodextrins)

IT 9003-09-2P, Poly(methyl vinyl ether) 12619-70-4P, Cyclodextrin
25104-37-4P, Poly(ethyl vinyl ether) 25585-50-6P, Poly(propyl vinyl ether)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of inclusion complexes of poly(alkyl vinyl ether) with cyclodextrins)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:485843 HCAPLUS
DN 125:117083
TI Fluororubber copolymer with good low temperature sealability and curing composition thereof
IN Saito, Hideya; Kitaichi, Masanori; Ueta, Yutaka; Kishine, Mitsuru
PA Daikin Industries Ltd., Japan
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9617877	A1	19960613	WO 1995-JP2497	19951206
	W: US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 08157539	A2	19960618	JP 1994-302503	19941206
	JP 3327016	B2	20020924		
	EP 743329	A1	19961120	EP 1995-939383	19951206
	EP 743329	B1	19990908		
	R: DE, FR, GB, IT				
	US 5717036	A	19980210	US 1996-687491	19961007
PRAI	JP 1994-302503	A	19941206		
	WO 1995-JP2497	W	19951206		

OS MARPAT 125:117083
AB The fluororubber copolymer is produced by free-radical polymerization in the presence of a diiodide compound, containing 0.005-1.5 mol% iodine-containing fluorinated vinyl ether units, 40-90 mol% vinylidene fluoride units, 3-35 mol% perfluoro (Me vinyl ether) units, and optionally ≤25 mol% hexafluoropropylene units and ≤40 mol% tetrafluoroethylene units. The copolymer contains iodine atoms originating from the diiodide compound and the iodine-containing fluorinated vinyl ether units in amts. of 0.01-1 wt% and 0.01-2 wt%, resp., and has a Mooney viscosity of 20-150. Heating 1 L water, 2.0 g C7F15CO2NH4, and 0.09 g Na2HPO4 in an autoclave to 80°, pressuring with a 66:34 mol ratio vinylidene fluoride (VdF) and perfluoro(Me vinyl ether) (PMVE) mixture to 1.57 MPa, adding 4 mL 5 mg/mL Na2S2O8, adding 1.2 g I(CH2)4I, adding 80:20 **mol** ratio VdF-**PMVE** mixture, adding 1.8 g ICH2CH2CF2OCF:CF2, and reacting for 9 h gave a copolymer with Mooney viscosity 96.
IC ICM C08F214-22
ICS C08F214-26; C08F002-38; C08L027-16; C08L027-18; C08K005-14; C08K005-3477; C09K003-10
CC 39-4 (Synthetic Elastomers and Natural Rubber)
ST fluororubber iodide fluoro vinyl ether; vinylidene fluoride perfluoromethyl vinyl ether rubber; cold sealability iodided fluororubber
IT Iodides, uses
RL: NUU (Other use, unclassified); USES (Uses)

(bis-, chain transfer agent; iodided fluororubber copolymer with cold sealability)
IT Rubber, synthetic
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(fluoro, iodided fluororubber copolymer with cold sealability)
IT 375-50-8, 1,4-Diiodo-perfluorobutane 375-80-4, 1,6-Diiodo-perfluorohexane
RL: NUU (Other use, unclassified); USES (Uses)
(chain transfer agent; iodided fluororubber copolymer with cold sealability)
IT 179765-13-0P 179765-14-1P 179765-15-2P 179765-16-3P 179765-18-5P 179765-19-6P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(iodided fluororubber copolymer with cold sealability)

L52 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:599575 HCAPLUS
DN 107:199575
TI Blends of fluoroplastics and fluoroelastomers
IN Logothetis, Anestis Leonidas; Stewart, Charles Winfield
PA du Pont de Nemours, E. I., and Co., USA
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 225792	A2	19870616	EP 1986-309484	19861205
	EP 225792	A3	19890510		
	EP 225792	B1	19930505		
	R: DE, FR, GB, IT, NL				
	US 4713418	A	19871215	US 1985-805543	19851206
	JP 62138548	A2	19870622	JP 1986-286126	19861202
	JP 2590328	B2	19970312		
	CA 1249687	A1	19890131	CA 1986-524344	19861202
PRAI	US 1985-805543		19851206		

AB The title blends with improved strength comprise 100 parts fluoroelastomer of 52-79.9:20-45:0.1-4 (mol) C2F4 (I)-perfluoroalkyl vinyl ether-vinylidene fluoride (II) terpolymer (or II replaced with trifluoroethylene, vinyl fluoride, perfluoroalkyl vinyl compound, perfluorophenoxy-substituted perfluoroalkylene vinyl ethers) and 2-50 parts ≤10 μ-diameter spherical particles of a thermoplastic perfluorocarbon copolymer containing ≥5 mol of I and having m.p. .apprx.300°. Thus, 100 parts 67.0:32.2:0.8 (**mol**) I-**perfluoromethyl vinyl ether**-II terpolymer and 35 parts 84:16 (mol) I-hexafluoropropylene copolymer were blended for 5 min at 340° and cooled to 25°. A mixture of above blend 135, C black 10, Pb oxide 4, dipotassium salt of bisphenol AF 3, and additive 4 parts was pressed to give 0.2-cm sheets, cured for 30 min at 177°, and post-cured for 2 days at 288° to give a sample with tensile modulus 9.5 MPa at 100% elongation, tensile strength at break 18.8 MPa, and tear strength 5.3 kN/m, vs. 7.5, 13.8, and 2.7, resp., for a sheet without the thermoplastic copolymer.
IC ICM C08L027-18
ICI C08L027-18
CC 37-6 (Plastics Manufacture and Processing)
ST fluoroelastomer thermoplastic perfluorocarbon copolymer blend; tetrafluoroethylene copolymer perfluorocarbon powder blend; perfluoroalkyl

vinyl ether copolymer blend; vinylidene fluoride copolymer perfluorocarbon blend; shear strength fluoropolymer blend

IT Fluoropolymers
RL: USES (Uses)
(fluororubber blends, improved tear strength)

IT Vulcanization accelerators and agents
(flurorubber containing, in melt blends with tetrafluoroethylene copolymer powders)

IT Plastics, molded
RL: USES (Uses)
(tetrafluroethylene copolymer-fluororubber vulcanizate blend, with good tear strength)

IT Rubber, synthetic
RL: USES (Uses)
(fluoro, tetrafluoroethylene copolymer blends, improved tear strength)

IT Rubber, synthetic
RL: USES (Uses)
(perfluoroalkyl vinyl ether-tetrafluoroethylene-vinylidene fluoride, tetrafluoroethylene copolymer blends, improved tear strength)

IT 25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer
26655-00-5, Perfluoropropyl vinyl ether-tetrafluoroethylene copolymer
RL: USES (Uses)
(fluoroelastomer blends, improved tear strength)

IT 110993-85-6 110993-87-8 110993-89-0 111023-53-1
RL: USES (Uses)
(rubber, vulcanized, tetrafluoroethylene copolymer blends, improved tear strength)

IT 25088-69-1
RL: USES (Uses)
(vulcanization agent, for fluororubber)

IT 78-63-7
RL: USES (Uses)
(vulcanization agent, for halo group-containing fluororubber)

IT 595-90-4
RL: USES (Uses)
(vulcanization agent, for nitrile group-containing fluororubber)

L52 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:130676 HCAPLUS
DN 104:130676
TI Fluorine-containing copolymers as sealants
AU Kochkina, L. G.; Erokhova, V. A.; Yusova, N. S.; Loginova, N. N.
CS USSR
SO Plasticheskie Massy (1985), (12), 49-50
CODEN: PLMSAI; ISSN: 0554-2901
DT Journal
LA Russian
AB The sealant properties of tetrafluoroethylene-perfluoromethyl vinyl ether-hexafluoropropylene copolymer (I) [101179-81-1] containing 5-22 **mol % perfluoromethyl vinyl ether** (II) were studied. I has high thermal stability, elasticity, and chemical resistance. The crystallinity degree of I is ≤12% independent of the mol. weight and component ratio. The melt index of I can be varied in a broad range, making it possible to process the polymer by different methods. I is used for sealing aerosol containers and for manufacture of injector-molded gaskets, replacing PTFE.
CC 37-5 (Plastics Manufacture and Processing)
ST perfluoromethyl vinyl ether copolymer gasket; fluoroethylene copolymer sealing part; fluoropolymer physicomech property sealant

IT Chemically resistant materials
Heat-resistant materials
(tetrafluoroethylene-perfluoromethyl vinyl ether-hexafluoropropylene copolymer, for sealing parts)
IT Gaskets
Seals (mechanical)
(tetrafluoroethylene-perfluoromethyl vinyl ether-hexafluoropropylene copolymer, with high chemical resistance and elasticity)
IT 101179-81-1
RL: USES (Uses)
(chemical and physicomech. properties of, monomer ratio effect on, for sealing parts)

L52 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1984:492607 HCAPLUS
DN 101:92607
TI Reinforcing perfluoroelastomer compositions
IN Kitto, David Paul
PA du Pont de Nemours, E. I., and Co. , USA
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 106180	A2	19840425	EP 1983-109213	19830917
	EP 106180	A3	19840912		
	EP 106180	B1	19870715		
	R: BE, DE, FR, GB, IT, NL, SE				
	US 4520170	A	19850528	US 1982-420478	19820920
	JP 59080457	A2	19840509	JP 1983-169514	19830916
	JP 03042303	B4	19910626		
PRAI	US 1982-420478		19820920		

AB A method for the preparation of perfluoroelastomer parts having high multidirectional tear strength comprises: (a) preparing a blend of the perfluoroelastomer with 1-40 parts of fibrillated poly(tetrafluoroethylene) (Teflon T8A)(I) [9002-84-0], (b) cryogenically pulverizing the blend produced from the first step into a powder, (c) placing the powder produced from the second step into a mold and press-curing into the desired shape, preferably under vacuum to minimize or eliminate the possibility of air being entrapped in the finished article, and (d) post-curing the press-cured article. Thus, perfluoroelastomer comprising a terpolymer of 53-79.8 mol% tetrafluoroethylene, 20-45 **mol% perfluoromethyl vinyl ether**, and 0.2-2 mol% cure-site monomer, preferably perfluoro(2-phenoxypropyl vinyl ether), was compounded with 18-crown-6, [17455-13-9], bisphenol AF potassium salt [91625-24-0], and Titanox 2071 at 60°, milled with 40 phr fibrillated I, annealed at 100°, and then pulverized at -210°. The particles passing through a 16-mesh screen were molded at 177° and 76,000 kPa pressure and postcured under N for 6-48 h. The post-cured sheet had tear strength in mill direction 82.82-93.33 kN/m and tear strength in cross mill direction 75.99-94.03 kN/m vs. unreinforced samples 22.06-25.39 and 25.04-25.56, resp.
IC C08J005-10; C08L027-12
CC 39-9 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 37
ST perfluoroelastomer compn reinforcement polytetrafluoroethylene;

fluoroethylene copolymer rubber reinforcement polytetrafluoroethylene; fluoromethyl ether copolymer rubber reinforcement; crown ether perfluoroelastomer compn; alkylphenol salt perfluoroelastomer compn; tear strength perfluoroelastomer compn

IT Membranes
(perfluoroelastomers, fibrillated poly(tetrafluoroethylene)-reinforced, for improved tear strength)

IT Rubber, synthetic
RL: USES (Uses)
(perfluoro, reinforcement of, by fibrillated poly(tetrafluoroethylene), for improved tear strength)

IT 13463-67-7, uses and miscellaneous 17455-13-9 91625-24-0
RL: USES (Uses)
(perfluoroelastomer compns. containing, reinforcement of, by fibrillated poly(tetrafluoroethylene))

IT 9002-84-0
RL: USES (Uses)
(reinforcement by fibrillated, of perfluoroelastomer parts)

IT 26658-70-8 34134-51-5 39955-27-6 39955-29-8 71832-66-1
RL: USES (Uses)
(rubber, reinforcement of, by fibrillated poly(tetrafluoroethylene))

L52 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1974:71826 HCAPLUS
DN 80:71826
TI New engineering material for advanced design concepts
AU Kalb, George H.; Quarles, Richard W., Jr.; Graff, Ralph S.
CS Elastomers Chem. Dep., E. I. Du Pont de Nemours and Co., Inc., Wilmington, DE, USA
SO Applied Polymer Symposia (1973), No. 22, 127-42
CODEN: APPSBX; ISSN: 0570-4898
DT Journal
LA English
AB Curing of perfluoroelastomers, prepared by incorporation of 0.3-2.0 mole % CF2:CFOXR1 (X = perfluoroalkylene, R1 = CN, CO2 Me, OC6F5) to 20-50 **mole** ratio **perfluoromethyl vinyl ether** - tetrafluorethylene copolymer [26425-79-6], with a glycol, a diamine or an aromatic bisnucleophile, e.g. dipotassium salt of hydroquinone [4554-13-6], gave thermally and chemical resistant vulcanizates. The values of the phys. properties of the vulcanizates determined at room temperature were similar to those for com. fluoroelastomers, and at 400.deg.F, the values were similar to those for fluorosilicones. The vulcanizates had high flat resistance to compression set at room temperature to 500.deg.F, and the brittle temperature for a SAF black-containing vulcanizate was -38.deg.C. The dielec. strength of the vulcanizates was 5 times that of polytetrafluoroethylene [9002-84-0]. The coefficient of linear expansion for a vulcanizate was 1 order of magnitude greater than a metal and 2 orders of magnitude greater than quartz. Heating of a carbon black-containing vulcanizate at 232.deg.C and 30 mm in moist air for 135 weeks had little effect.
CC 38-10 (Elastomers, Including Natural Rubber)
ST fluoroelastomer vulcanization; fluoromethyl vinyl ether copolymer; cyanobutyl vinyl ether copolymer; carbomethoxybutyl vinyl ether copolymer; phenoxypropyl vinyl ether copolymer; TFE copolymer vulcanization; tensile strength fluoroelastomer; compression resistance fluoroelastomer; dynamic property fluoroelastomer; hardness fluoroelastomer; dielec strength fluoroelastomer; chem resistance fluoroelasomer; thermal stability fluoroelastomer; safety fluoroelastomer manuf
IT Vulcanization agents
(diphenol potassium salt, for tetrafluoroethylene-perfluoro(methyl

vinyl ether)terpolymer rubbers)
IT Chemically resistant materials
Heat-resistant materials
(tetrafluoroethylene-perfluoro(methyl vinyl ether)terpolymer rubbers)
IT Rubber, synthetic
(tetrafluoroethylene-perfluoro(methyl vinyl ether)terpolymer, chemical and heat-resistant)
IT 9004-74-4 16069-36-6
RL: USES (Uses)
(accelerator, for crosslinking of tetrafluoroethylene-perfluoro(methyl vinyl ether)terpolymer rubbers)
IT 4554-13-6 13730-42-2 25088-69-1
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent, for tetrafluoroethylene-perfluoro(methyl vinyl ether)terpolymer rubbers)
IT 26658-70-8 28676-37-1 34134-51-5 39955-27-6
RL: USES (Uses)
(rubber, chemical and heat-resistant)

L52 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1966:421224 HCAPLUS
DN 65:21224
OREF 65:3984g-h,3985a-b
TI Macromolecular structure of vinylidene fluoride and perfluoromethyl vinyl ether copolymer in solution by nuclear magnetic resonance method
AU Maksimov, V. L.; Dolgopol'skii, I. M.; Votinov, M. P.; Rabinovich, R. L.
CS S. V. Lebedev All-Union Sci.-Res. Inst. Syn. Rubber, Leningrad
SO Vysokomolekulyarnye Soedineniya (1966), 8(4), 620-6
CODEN: VMSDA8; ISSN: 0042-9368
DT Journal
LA Russian
AB The N.M.R. spectra of F were measured in solns. of vinylidene fluoride (I) and perfluoromethyl vinyl ether (II) copolymer at 19 and 80 Mc. In copolymer mols. with <50% II there were sequences of I units and alternating I and II units. The I units were mainly head-to-tail with .apprx.10% head-to-head links. Head-to-tail was the chief link in the alternating I and II regions with .apprx.20% of head-to-head and some tail-to-tail links. In copolymer mols. with >50% II, there were some ether-ether links. These were apparently only head-to-tail. The data recorded in the table were obtained from the N.M.R. measurements and chromatographic analysis of unreacted monomers. Initial monomer mist. composition, mole %, I, II, Composition of coploymer, mole%, Chromatographic data,
I, II, N. M. R. data, I, II; 90, 10, 91.5, 8.5, 90, 10; 85, 15, 86.4, 13.6, 86, 14; 75, 25, 79.6, 20.4, 80, 20; 55, 45, 61.0, 39.0, 66, 34; 50, 50, 52.2, 47.8, 60, 40; 25, 75, 32.2, 67.8, 49, 51; 10, 90, 15.0, 85.0, 38, 62; The discrepancy in the N.M.R. and chromatographic data, increasing with increasing amts. of II, is possibly due to the failure of the N.M.R. spectra to account for the insol. i.e., II, part of the copolymers.
CC 45 (Synthetic High Polymers)
IT Nuclear magnetic resonance
(of fluorine, in perfluoromethyl vinyl ether polymers with vinylidene fluoride)
IT **Molecular** structure
(of **perfluoromethyl vinyl ether** polymers with vinylidene fluoride)
IT Ether, trifluoromethyl vinyl, polymer with vinylidene fluoride
(mol. structure and nuclear magnetic resonance of)

IT Ethylene, 1,1-difluoro-, polymer with **perfluoromethyl vinyl ether**
(**mol.** structure and nuclear magnetic resonance of solns. of)
IT 1,3-Butadiene, 1-phenyl-, homopolymer
(mol. structure of)
IT 7782-41-4, Fluorine.
(nuclear magnetic resonance of, in perfluoromethyl vinyl ether polymers with vinylidene fluoride)

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